

WHAT IS CLAIMED IS:

1. A switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers, and can be remote-controlled over a network,
  - the switching device comprising:
    - a network interface circuit to be connected to the network;
    - 10 an image processing unit that includes an image compression circuit for compressing image signals outputted from the computers; and
    - 15 a controller that changes a compression method or compression rate to be used at the image compression circuit, in accordance with a congestion level of the network.
2. The switching device as claimed in claim 1, further comprising a packet filtering circuit that adds up a packet data amount received through the network interface circuit.
3. The switching device as claimed in claim 1, comprising a plurality of image processing units and a plurality of remote-control computers that can be connected to the network, the number of the image processing units being the same as the number of the remote-control computers.
- 30 4. The switching device as claimed in claim 1, wherein the controller reports the changed compression method or compression rate to a remote-control computer.
- 35 5. A switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers, and can be remote-controlled over a network,

the switching device comprising  
a controller that makes the computers recognize a  
mouse, connected to a remote-control computer over the  
network, as an absolute value device.

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6. The switching device as claimed in claim 5,  
wherein the controller is a USB controller.

7. A switching device that selectively  
10 switches connections to a predetermined terminal among  
a plurality of terminals connected to computers, and  
can be remote-controlled over a network,

the switching device comprising:

15 a function that receives mouse coordinates of a  
mouse connected to a remote-control computer over the  
network;

a function that calculates the difference between  
the received mouse coordinates and previously received  
mouse coordinates; and

20 a function that transmits relative value data to  
a corresponding one of the computers.

8. A computer system comprising:

a switching device that selectively switches  
25 connections to a predetermined terminal among a  
plurality of terminals, and can be remote-controlled  
over a network, the switching device including: a  
network interface circuit to be connected to the  
network; an image processing unit that includes an  
30 image compression circuit for compressing image  
signals; and a controller that changes a compression  
method or compression rate to be used at the image  
compression circuit, in accordance with a congestion  
level of the network;

35 a plurality of computers that are connected to  
the switching device; and

a remote-control computer that is connected to

the switching device via the network.

9. A method of updating an image compression method or compression rate to be used in a switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers and can be remote-controlled over a network,

10 the method comprising the steps of:  
calculating a congestion level of the network;  
and

15 changing the image compression method or compression rate to be used in the switching device, in accordance with the calculated congestion level of the network.

10. The method as claimed in claim 9, wherein the congestion level calculating step includes the step of calculating data flow per unit time from an 20 operation period of a packet filtering function and the amount of data transmitted from a packet filtering circuit.

11. The method as claimed in claim 9, further 25 comprising the step of reporting the changed image compression method or compression rate to a remote-control computer.

12. A method of updating an image compression 30 method or compression rate to be used in a switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers and can be remote-controlled over a network,

35 the method comprising the steps of:  
calculating a congestion level of the network,  
the calculation being performed by a remote-control

computer connected to the network;

5        determining the image compression method or compression rate to be used in the switching device, in accordance with the calculated congestion level of the network; and

reporting the determined image compression method or compression rate to the switching device.

13.      A method of updating an image compression method or compression rate to be used in a switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers and can be remote-controlled over a network,

15        the method comprising the steps of:

calculating a congestion level of the network, the calculation being performed by a remote-control computer connected to the switching device via the network; and

20        reporting the calculated congestion level of the network to the switching device.

14.      The method as claimed in claim 12, wherein the congestion level calculating step includes the step of calculating data flow per unit time from a measuring period and the amount of packet data received within the measuring period.

15.      A method of determining an image compression method or compression rate to be used in a switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers and can be remote-controlled over a network,

35        the method comprising the steps of:

receiving a congestion level of the network from a remote-control computer connected to the network; and

changing the image compression method or compression rate to be used in the switching device, in accordance with the received congestion level of the network.

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16. A method of updating an image compression method or compression rate to be used in a switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers and can be remote-controlled over a network,

the method comprising the steps of:  
calculating a transmission period between the switching device and a remote-control computer that is connected to the switching device via the network; and  
changing the image compression method or compression rate to be used in the switching device, in accordance with the calculated transmission period.

20 17. A method of updating an image compression method or compression rate to be used in a switching device that selectively switches connections to a predetermined terminal among a plurality of terminals connected to computers and can be remote-controlled over a network,

25 the method comprising the steps of:  
calculating a congestion level of the network, the calculation being performed by the switching device;  
30 calculating a congestion level of the network, the calculation being performed by a remote-control computer connected to the switching device via the network; and  
35 changing the image compression method or compression rate to be used in the switching device, in accordance with the congestion levels of the network calculated in the foregoing steps.

18. A method of converting mouse coordinates that are to be used in a remote-control computer connected to a switching device via a network, the 5 switching device selectively switching connections to a predetermined terminal among a plurality of terminals connected to computers,

the method comprising the steps of:

acquiring an operation screen size displayed on 10 the remote-control computer;

inquiring of the switching device the screen size of one of the computers, and receiving the screen size of the computer from the switching device;

calculating coordinate scales from the operation 15 screen size and a computer screen resolution calculated from the screen size of the computer; and

converting the mouse coordinates into computer absolute coordinates, based on the calculated 20 coordinate scales.

19. A program product for causing a computer to update an image compression method or compression rate to be used in a switching device, comprising:

instructions for calculating a congestion level 25 of a network between the switching device and a remote-control computer; and

instructions for changing the image compression method or compression rate to be used in the switching device, in accordance with the calculated congestion 30 level of the network.

20. A program product for causing a computer to update an image compression method or compression rate to be used in a switching device, comprising:

35 instructions for calculating a congestion level of a network between the switching device and a remote-control computer that is connected to the switching

device via the network;

instructions for determining the image compression method or compression rate to be used in the switching device, in accordance with the calculated 5 congestion level of the network; and

instructions for reporting the determined image compression method or compression rate to the switching device.

10 21. A program product for causing a computer to convert mouse coordinates, comprising:

instructions for acquiring an operation screen size displayed on a remote-control computer;

instructions for inquiring of a switching device 15 the screen size of a computer, and receiving the screen size of the computer from the switching device;

instructions for calculating coordinate scales from the operation screen size and a computer screen resolution calculated from the screen size of the 20 computer;

instructions for converting the mouse coordinates into computer absolute coordinates, based on the calculated coordinate scales; and

instructions for transmitting the computer 25 absolute coordinates to the switching device.

22. A computer-readable recording medium on which a program for causing a computer to update an image compression method or compression rate to be used 30 in a switching device is recorded,

the program including: instructions for calculating a congestion level of a network between the switching device and a remote-control computer; and 35 instructions for changing the image compression method or compression rate to be used in the switching device, in accordance with the calculated congestion level of the network.